

EUROPEAN PATENT APPLICATION

Application number: 85103233.4

Int. Cl.⁴: F 02 P 5/04

Date of filing: 20.03.85

Priority: 23.03.84 JP 55710/84

Date of publication of application:
25.09.85 Bulletin 85/39

Date of deferred publication of search report: 13.08.86

Designated Contracting States:
DE FR GB

Applicant: **HITACHI, LTD.**
6, Kanda Surugadai 4-chome Chiyoda-ku
Tokyo 100(JP)

Inventor: **Kashimura, Yuichi**
206-11, Inada
Katsuta-shi Ibaraki-ken(JP)

Inventor: **Sugiura, Noboru**
1360-27, Kasahara-cho
Mito-shi Ibaraki-ken(JP)

Representative: **Patentanwälte Beetz sen. - Beetz jun.**
Timpe - Siegfried - Schmitt-Fumian
Steinsdorfstrasse 10
D-8000 München 22(DE)

Apparatus for controlling ignition timing for internal combustion engine.

An angle of an ignition timing for a specific cylinder is gradually advanced. A comparison is made between the previous output of a knock detection circuit for the cylinder having its angle advanced and the present output thereof by a comparator (107). The comparator (107) evaluates an occurrence of a knock when an output signal therefrom changes drastically. The signal (111) from the comparator (107) re-writes the knock evaluation reference value in each

cylinder written in the memory (108). When an output from the knock sensor (101) is larger than that of the memory (108), an ignition timing retard angle signal is output from the comparator (109).

As a result, the apparatus of the present invention can control ignition timing without errors due to the deterioration with age or manufacturing errors, as it can correct knocking detection sensibility of the apparatus.

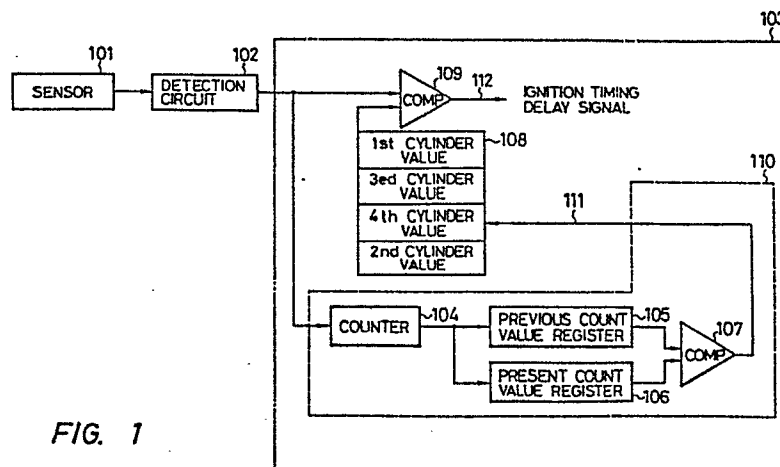


FIG. 1



European Patent
Office

EUROPEAN SEARCH REPORT

0155680
Application number

EP 85 10 3233

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
P, X	FR-A-2 544 803 (MITSUBISHI) * Figures 1-5; page 2, line 27 - page 10, line 33; page 11, line 8 - page 15, line 13 *	1-3, 6-8	F 02 P 5
A	--- EP-A-0 096 869 (HITACHI)		
A	--- EP-A-0 030 491 (RENAULT) -----		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
Place of search THE HAGUE		Date of completion of the search 20-05-1986	Examiner CODIN CH.G.
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	